BIOENGINEERING RESEARCH PARTNERSHIPS

Release Date: October 29, 1998

PA NUMBER: PAS-99-010

P.T.

National Cancer Institute
National Center for Research Resources
National Eye Institute
National Human Genome Research Institute
National Heart, Lung, and Blood Institute
National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Institute of Child Health and Human Development
National Institute on Drug Abuse
National Institute on Deafness and Other Communication Disorders
National Institute of Dental Research
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute of Environmental Health Sciences
National Institute of General Medical Sciences
National Institute of Mental Health
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research
National Library of Medicine

Letter of Intent Receipt Date: February 19, 1999 (and annually thereafter to be announced)
Application Receipt Date: March 26, 1999 (and annually thereafter to be announced)

PURPOSE

Participating Institutes and Centers (ICs) of the National Institutes of Health (NIH) invite applications for R24 awards to support Bioengineering Research Partnerships (BRPs) to support basic bioengineering research addressing important biological or medical research problems. A

BRP is a multidisciplinary research team applying an integrative, systems approach to developing knowledge and/or methods to prevent, detect, diagnose, and treat disease and understand health and behavior, and must include bioengineering expertise in combination with basic and/or clinical investigators. A BRP may propose design-directed or hypotheses- driven research in universities, national laboratories, medical schools, private industry and other public and private entities.

In parallel with this program announcement (PA), NIH is issuing a PA for Bioengineering Research Grants (BRGs). BRG applications differ from BRP applications in that they will be funded as R01 awards, with the research generally to be performed in a single laboratory or involving a small number of investigators.

HEALTHY PEOPLE 2000

The Public Health Service (PHS) is committed to achieving the health promotion and disease prevention objectives of "Healthy People 2000," a PHS-led national activity for setting priority areas. This PA, Bioengineering Research Partnerships (BRP), is related to all priority areas. Potential applicants may obtain a copy of "Healthy People 2000" (Full Report: Stock No. 017-001-00474-0 or Summary Report: Stock No. 017-001-00473-1) through the Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325 (Tel: 202-512-1800).

ELIGIBILITY REQUIREMENTS

Applications may be submitted by domestic for-profit and non-profit organizations, public and private, such as universities, colleges, hospitals, laboratories, units of State and local governments, and eligible agencies of the Federal government. Foreign institutions are not eligible to apply, but BRP collaborative projects may include work at a foreign site when the expertise at the foreign site is not present in the United States. Racial/ethnic minority individuals, women, and persons with disabilities are encouraged to apply as principal investigators.

MECHANISM OF SUPPORT

The mechanism of support will be the resource-related research project (R24). Responsibility for the planning, direction, and execution of the proposed project will be solely that of the applicant. The total requested project period may not exceed five years.

An applicant planning to submit an application requesting $500,000 or more in direct costs for any year is advised that he or she must contact IC program staff, listed under INQUIRIES, before submitting the application, i.e., as plans for the study are being developed. Furthermore, the applicant must obtain agreement from IC staff that the IC will accept the application for consideration for award. Finally, the applicant must identify, in a cover letter sent with the application, the staff member and IC who agreed to accept assignment of the application. This policy requires an applicant to obtain agreement for acceptance of both any such application and any subsequent amendment. Refer to the NIH Guide for Grants and Contracts, March 20, 1998 (http://www.nih.gov/grants/guide/notice-files/not98-030.html).

FUNDS AVAILABLE

The estimated total funds (direct and indirect costs) available in FY 2000 for the first year of support for awards under this PA will be approximately $12 million. Because the nature and scope of the research proposed in response to this PA may vary, it is anticipated that the size of the awards will vary also. The number of awards and level of support will depend upon receipt of a sufficient number of applications of high scientific merit. Although this PA is provided for in the financial plans of the participating ICs, awards pursuant to this PA are contingent upon the availability of funds. Funding beyond the first and subsequent years of the grant will be contingent upon satisfactory progress during the preceding years and the availability of funds. Applicants are encouraged to discuss budget requests with program staff listed under INQUIRIES prior to submission. The initial period of support for a BRP award may be up to five years. The award may be competitively renewed for a second period (up to five years) based on peer review of a renewal application. NIH does not envision more than one renewal period.

RESEARCH OBJECTIVES

Background

Many of today's biological problems are too complex to be solved by biologists alone; partners are needed in many disciplines, including physics, mathematics, chemistry, computer sciences, and engineering. Bioengineering integrates principles from a diversity of fields. The creativity of interdisciplinary teams is resulting in new basic understanding, novel products and innovative technologies. Bioengineering also crosses the boundaries of academia, science, medicine, and industry.

Recognizing the increasing importance of bioengineering in public health, the NIH established the Bioengineering Consortium (BECON) as a central focus for NIH bioengineering research. BECON held a two-day Bioengineering Symposium on February 27-28, 1998. A summary of the presentations and the conclusions of the panels are included in the full report, which is available on the Internet at http://www.nibib.nih.gov/. The discussions and recommendations of symposium participants aided in the formulation of the BRP and BRG PAs.

For example, both the BRP and BRG PAs recognize that applications for bioengineering projects are often focused on technology development rather than on proving or disproving a scientific hypothesis. Therefore, the NIH review criteria for bioengineering proposals submitted in response to these PAs have been modified to ensure that these proposals are evaluated appropriately and fairly.

Objective and Scope

The objective of this program announcement is to encourage research in selected basic bioengineering areas. Bioengineering is defined as follows: Bioengineering integrates physical, chemical, or mathematical sciences and engineering principles for the study of biology, medicine, behavior, or health. It advances fundamental concepts, creates knowledge from the molecular to the organ systems level, and develops innovative biologics, materials, processes, implants, devices, and informatics approaches for the prevention, diagnosis, and treatment of disease, for patient rehabilitation, and for improving health.

Each BRP should bring together the necessary engineering, basic science and/or clinical expertise to focus on a significant area of bioengineering research within the mission of the NIH. A BRP can vary in size and exhibit diverse forms of organization, participation, and operation. No single type of BRP fits the needs of every area. Rather, the size, structure, and operation of a BRP are determined by the proposed research.

Areas of Bioengineering Research for a BRP.

Applications for BRP awards should focus on an area of bioengineering research where progress is likely to make a significant contribution to improving human health. It is likely that these areas will be of interest to many ICs. For example, materials science may be relevant to the ultimate development of artificial organs or novel medical implants; thus a research initiative in materials science would be of interest to many ICs, even though it is not clear at the outset which organ or which IC will benefit from advances in the field. Similarly, bioinformatics may provide analysis

and modeling tools for large sets of biological data, facilitate home-based devices, and create networks to help manage chronic diseases. Imaging may be applied to the monitoring of cellular processes, elucidation of developmental processes in the organism, identification and localization of disease or its progression, development of virtual reality training tools, and monitoring of therapeutic interventions. Micro- and nano- fabrication and fluidics may be applied to creating in vivo sensors, biochemical analysis systems, imaging systems, and surgical devices.

Bioengineering areas of particular relevance to the mission of ICs are identified below. The topics listed are not intended to be exclusive.

Bioengineering Research Areas

- Biomechanics
- Bioprocessing
- Bioelectrics, Ion Channels, and Organ Function
- Clinical Medicine, Therapeutics & Drug Delivery
- Combinatorial Approaches to Chemistry, Materials, Genes, and Therapeutics
- Functional Genomics including Microarray Technology, Integrated Systems, and Analysis Tools
- Imaging
- Nanotechnology
- Informatics and Computational Methods
- Medical Implants, Biomembranes, Sensors and Devices
- Complex Biological Systems
- Organ Culture Systems and Organogenesis
- Rehabilitation, Prostheses
- Cell and Tissue Engineering and Biomaterials
- Tissue Regeneration
- Integrative Physiology
- Drug Bioavailability

Organizational Structure

BRP Leadership and Management

The BRP Principal Investigator is responsible for management, staffing, and resource allocation and for administering the award in accordance with NIH policies. The PI has both the

responsibility and authority to use BRP funds in the most productive way to achieve the goals proposed in the application. To accomplish this task, the PI should adjust BRP funding among BRP participants, supporting new Partners or reducing support to old Partners as needed. The PI's administrative structure will depend upon the size and scope of the proposed research. For example, there may be less involvement of a clinical component in the early stages of a BRP and far more when the issue of clinical application is more salient.

Annual BRP PI Meeting.

BRP PIs will meet annually to share substantive results, to ensure that the NIH has a coherent view of the advances in these fields, and to have an opportunity for collective problem solving among the BRPs. The cost of participating in the BRP PI annual meeting should be built into the BRP budget.

INCLUSION OF WOMEN AND MINORITIES IN RESEARCH INVOLVING HUMAN SUBJECTS

It is the policy of the NIH that women and members of minority groups and their sub-populations must be included in all NIH supported medical and behavioral research projects involving human subjects, unless a clear and compelling rationale and justification are provided that inclusion is inappropriate with respect to the health of the subjects of the purpose of the research. This policy results from the NIH Revitalization Act of 1993 (Section 492B of Public Law 103-43).

All investigators proposing research involving human subjects should read the "NIH Guidelines for Inclusion of Women and Minorities as Subjects in Clinical Research," which have been published in the Federal Register of March 28, 1994 (FR 59 14508-14513) and the NIH Guide for Grants and Contracts, Vol. 23, No. 11, March 18, 1994 (http://www.nih.gov/grants/guide/1994/94.03.18/notice-nih-guideline008.html).

Investigators may obtain copies from these sources or from the program staff listed under INQUIRIES. Program staff may also provide additional relevant information concerning the policy.

NIH POLICY AND GUIDELINES ON THE INCLUSION OF CHILDREN AS PARTICIPANTS IN RESEARCH INVOLVING HUMAN SUBJECTS

It is the policy of NIH that children (i.e., individuals under the age of 21) must be included in all human subjects research, conducted or supported by the NIH, unless there are scientific and

ethical reasons not to include them. This policy applies to all initial (Type 1) applications submitted for receipt dates after October 1, 1998.

All investigators proposing research involving human subjects should read the "NIH Policy and Guidelines on the Inclusion of Children as Participants in Research Involving Human Subjects" that was published in the NIH Guide for Grants and Contracts, March 6, 1998, and is available at the following URL address: http://www.nih.gov/grants/guide/notice-files/not98-024.html.

Investigators may obtain copies from these sources or from the Program Contact person listed under INQUIRIES who may also provide additional relevant information concerning the policy.

LETTER OF INTENT

Prospective applicants are requested to submit, by February 19, 1999, a letter of intent that includes a descriptive title of the proposed research, the name, address, and telephone of the principal investigator and collaborators, and the number and title of this PA. Although a letter of intent is not required, is not binding, and does not enter into the review if a subsequent application, the information that it contains allows NIH staff to estimate the potential review workload and avoid conflict of interest in the review.

The letter of intent is to be sent to:

Suzanne Fisher, Ph.D.
Division of Receipt Referral
Center for Scientific Review
6701 Rockledge Drive, Suite 2030, MSC 7720
Bethesda, MD 20892-7720

APPLICATION PROCEDURES

Applicants are strongly advised to contact IC program staff listed under INQUIRIES to discuss the responsiveness of their plans before developing a detailed research proposal. Since a BRP award may include funds from a single IC or from several NIH ICs, applicants may be directed to contact IC program staff in more than one IC. The use of e-mail for such communication is strongly recommended. Applicants should identify in a cover letter the IC(s) that has agreed to accept the application for funding consideration. In addition, a description of the relevance of the

proposed research to the mission of each IC that might support the project should be included in the "Specific Aims" and "Significance" sections of the application.

Applications are to be submitted on the grant application form PHS 398 (rev. 5/95) and will be accepted only once each year, on the annual receipt date. Application kits are available at most institutional offices of sponsored research and may be obtained from the Division of Extramural Outreach and Information Resources, National Institutes of Health, 6701 Rockledge Drive, MSC 7910, Bethesda, MD 20892-7910, Telephone: (301) 435-0714, E-mail: grantsinfo@nih.gov. Application kits are also available on the Internet at http://www.nih.gov/grants/funding/funding.htm

Follow the PHS 398 instructions for "Preparing Your Application" with modifications and additions as described in the sections below.

Page limitations. Page limitations have been increased from the normal 25 page limit for sections A-D of the "Research Plan" of an application. For applications in response to this program announcement, the page limitation is a maximum of 40 pages for sections A-D. This 40 page limit is an absolute maximum and applicants are encouraged to be concise and use fewer pages.

Title and Abstract. Title the application the same as the title of the BRP. Identify the institution leading the BRP and any other participating institutions. The abstract should provide clear descriptions of the area of bioengineering research that will be the focus of the BRP, the planned multidisciplinary approach, and the specific milestones to be achieved and timelines for achievement for the first year and additional years of the grant.

BRP BUDGET ITEMS

Proposed Budget Organization. Include a separate budget for each Partner at a non-grantee institution, and when appropriate for clarity, for each Partner within the grantee institution. Include a summary budget for all BRP participants with Partners at non-grantee institutions shown as consultants or consortium arrangements.

Maximum Cost and Annual Rate of Inflation. The NIH ICs will not provide annual support in excess of $2 million total cost for the first year. Requests for succeeding years in excess of $2 million plus inflationary increases must be thoroughly justified in the application.

Personnel. Percent Effort - The PI is expected to devote a minimum of 25% effort to the BRP. The percent effort requested for other personnel should be limited to time devoted specifically to BRP Partner activities and not to other research activities. Information documenting the level of effort on BRP activities should be included in the application. The need for all requested personnel costs should be thoroughly justified. The percent effort of the BRP PI should be justified in the context of the PI's other responsibilities. Administrative support (a secretary or an administrative assistant) may be requested for the BRP office only for matters directly pertaining to the BRP.

Travel. BRP PI meeting(s) - There will be an annual BRP PI meeting at a location to be determined by NIH staff. The PI meeting will be held at NIH, at a BRP site, or at the site of a scientific conference that many of the PIs plan to attend. The BRP PI and at least one other BRP scientist should attend the annual meeting. Additional BRP members are welcome. Applicants should include travel funds specifically for these meetings in the BRP budget request. For budget purposes, applicants may assume that total annual costs to the grant for the BRP PIs meeting will not exceed $2500.

Other Travel - Applicants may request and justify travel funds in addition to the funds required for the Annual PI Meeting. Travel funds could be used to promote collaboration among BRP partners at different institutions or at a distant site, be used for travel of external advisors to the BRP site, and/or be used for BRP Partners to attend scientific meetings essential to the progress of the BRP and for which other funds are not available.

Other Expenses. This category includes the costs necessary for the central administration and fiscal management of the BRP, including relevant and reasonable costs for reprints, graphics, and publications.

Projected Funding by Source. Some BRP applicants may anticipate or receive commitments for significant funding from other than NIH sources, e.g., from a collaborating company. When this is the case, applications should describe the source, annual amount and use of other funding.

BIOGRAPHICAL SKETCHES

For the Principal Investigator, Co-Investigator(s), and non Co-Investigator Senior Personnel, provide a brief biographical sketch or curriculum vitae, including a list of the five most recent or significant publications. This section must not exceed two pages per person.

OTHER SUPPORT

Provide a complete listing of current and pending support for the Principal Investigator, Co-Investigator(s), and non Co-Investigator Senior Personnel only.

RESOURCES

Facilities and Equipment. Describe the equipment and facilities available to the proposed BRP.

Institutional commitment. If the BRP implies an institutional commitment of resources across boundaries in the institution or anticipates the provision of institutional resources, please include letters from relevant senior level individuals describing those commitments.

Shared Experimental Facilities. Where appropriate, describe the shared facilities to be established, including specific major research instrumentation, and plans for the development of instrumentation. Describe plans for maintaining and operating the facilities, including staffing, provisions for user fees, and plans for ensuring access to outside users. Distinguish between existing facilities and those still to be developed.

RESEARCH PLAN

A. Specific Aims. Describe the specific aims in the selected area of bioengineering research and the goals for the first year and for the long term. Delineate the design principle(s) supporting the research or the hypothesis (-es) to be tested. Describe the expected applications of the bioengineering research that will improve human health. One page is recommended.

B. Background and Significance. Briefly describe the area of bioengineering research that is the focus of the BRP. Critically evaluate existing knowledge and approaches that have been or are being directed in the area, and specifically describe how the BRP approach will advance the field. State concisely the importance and health relevance of the proposed research to the Specific Aims.

C. Preliminary Studies and Rationale. Preliminary studies are not required for BRP applications, but applicants with preliminary results should describe them. In the absence of preliminary results, applicants should describe the rationale and scientific and engineering bases for the proposal.

D. Research Design and Methods. A BRP should focus on a systems approach in a significant area of bioengineering research. Describe an overall research plan that is sufficiently long term (5-10 years) to justify a BRP organization and adaptable enough to permit change as the research proceeds. Clearly indicate current activities, why a BRP is necessary, and what unique opportunities will be provided by the proposed BRP. Explain the integrative-engineering approach and why such an approach is essential to the proposed research. If the proposed BRP research is closely related to ongoing research or an existing Center, explain how the research activities of the BRP will complement but not overlap with existing research. Describe the efforts of each Partner and how these will be integrated and organized to accomplish the specific aims of the project. Provide a tentative sequence or timetable for the project. Include how the data will be collected, analyzed, and interpreted. Describe how the data and technological advances will be disseminated to other investigators, and if relevant, how the technology information (intellectual property) will be transferred to the commercial sector for product development.

The title and number of this program announcement must be typed on line 2 of the face page of the application form and the YES box must be marked.

Submit a signed, typewritten original of the application, including the Checklist, and appendices, and five signed photocopies in one package to:

CENTER FOR SCIENTIFIC REVIEW
NATIONAL INSTITUTES OF HEALTH
6701 ROCKLEDGE DRIVE, ROOM 1040 - MSC 7710
BETHESDA, MD 20892-7710
BETHESDA, MD 20817 (for express/courier service)

REVIEW CONSIDERATIONS

Upon receipt, applications will be reviewed for completeness by the NIH Center for Scientific Review (CSR), and for responsiveness by program staff of the IC to which an application is assigned. Incomplete and/or non-responsive applications will be returned to the applicant without further consideration. Applications that are complete and responsive will be evaluated for scientific and technical merit by Scientific Review Groups (SRGs) of CSR. As part of the initial merit review, applications may be subjected to standard NIH streamlined review procedures; nevertheless, each application will receive a written critique.

Review Criteria

The NIH review criteria have been adapted to ensure that the BRP application is evaluated appropriately. The score should reflect the overall impact that the BRP award could have on the selected area of bioengineering research based on consideration of the five criteria, with the emphasis on each criterion varying from one application to another, depending on the nature of the application and its relative strengths. Note that an application need not be strong in all categories to be judged likely to have major scientific impact and thus deserve a high priority score. For example, an investigator may propose to carry out important work that by its nature is not innovative but is essential to move a field forward. The review criteria follow:

(1) Significance. If the Specific Aims of the BRP are achieved, will they provide significant advances in the selected area of bioengineering research? Is the research likely to have a significant impact on other areas of research? Will the technological advances have a significant impact on human health?

(2) Approach. Are the BRP engineering, scientific and clinical approaches and methods adequately developed, well integrated, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics? Are the milestones and evaluation procedures appropriate? Are the plans for information dissemination and technology transfer reasonable?

(3) Innovation. Does the BRP propose new approaches or explore new research paradigms or new concepts that combine engineering, basic and clinical sciences? Are extant approaches or concepts applied to new scientific problems in novel ways?

(4) Investigators. Is the PI capable of coordinating and managing the proposed BRP? Are the investigators (Partners) appropriately trained in their disciplines and well suited to carry out the proposed work? Is there evidence that the Partners can work together effectively? Do the advantages of a Partner at a distant site outweigh the disadvantages?

(5) Environment. Does the scientific and technological environment in which the work will be done contribute to the probability of success? Does the proposed research take advantage of unique features of the scientific environment or employ useful collaborative arrangements? Is there evidence of institutional support?

In addition to these five review criteria, applicants must demonstrate adequate provisions for the protection of human and animal subjects, the safety of the research environment, and conformance with the "NIH Guidelines for the Inclusion of Women and Minorities as Subjects in Clinical Research," and "NIH Policy and Guidelines on the Inclusion of Children as Participants in Research Involving Human Subjects."

AWARD CRITERIA

BRP applications will compete for available funds with all other approved applications. The following will be considered in making funding decisions:

- Quality of the proposed research as determined by peer review
- Availability of funds
- Institute's priority for area of proposed research

INQUIRIES

The opportunity to clarify any issues or questions regarding a BRP or a BRP application is welcome.

Questions regarding BRP scientific issues, management issues, or issues on cores related to participating ICs may be directed to:

NCI
Carol Dahl, Ph.D.
National Cancer Institute
Building 31, Room 11A03, MSC 2590
Bethesda, MD 20892-2590
Telephone: (301) 496-1550
FAX: (301) 496-7807
Email: carol_dahl@nih.gov

NCRR
Richard Dubois, Ph.D.
Biomedical Technology
National Center for Research Resources
6705 Rockledge Drive, Room 61060, MSC 7965

Bethesda, MD 20892-7965
Telephone: (301) 435-0755
FAX: (301) 480-3659
Email: rickard@ncrr.nih.gov

NEI
Lore Anne McNicol, Ph.D.
National Eye Institute
6120 Executive Boulevard, Suite 350, MSC 7164
Bethesda, MD 20892-7164
Telephone: (301) 496-5301
FAX: (301) 402-0528
Email: loreanne.mcnicol@nei.nih.gov

NHGRI
Jeffery A. Schloss, Ph.D.
Division of Extramural Research
National Human Genome Research Institute
Building 38A, Room 614, MSC 7531
Bethesda, MD 20892-6050
Telephone: (301) 496-7531
FAX: (301) 480-2770
Email: jeff_schloss@nih.gov

NHLBI
John T. Watson, Ph.D.
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National Heart, Lung, and Blood Institute
9000 Rockville Pike, Room 5A49
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Email: jw53f@nih.gov

NIA
Evan Hadley, M.D.
Geriatrics

National Institute on Aging
Gateway Building, Suite 3E327, MSC 9205
Bethesda, MD 20892-9205
Telephone: (301) 435-3044
FAX: (301) 402-1784
Email: hadleye@exmur.nia.nih.gov

NIAAA
Jules Selden, D.V.M., Ph.D.
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National Institute on Alcohol Abuse and Alcoholism
6000 Executive Boulevard, Suite 402, MSC 7003
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NIAID
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NIAMS
James S. Panagis, M.D., M.P.H.
Musculoskeletal Diseases Branch
National Institute of Arthritis and Musculoskeletal and Skin Diseases
6500 Center Drive, Room 5AS-37K
Bethesda, MD 20892-6500
Telephone: (301) 594-5055
FAX: (301) 480-4543
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NICHD

Louis A. Quatrano, Ph.D.
National Center for Medical Rehabilitation Research
National Institute of Child Health and Human Development
Building 61E, Room 2A03
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Email: quatranl@hd01.nichd.nih.gov

NIDA
Thomas G. Aigner, Ph.D.
Division of Basic Research
National Institute on Drug Abuse
Parklawn Building, Room 10A-19
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NIDCD
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6120 Executive Boulevard, Room 400-C, MSC 7180
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NIDDK
Joan T. Harmon, Ph.D.
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National Institute of Diabetes and Digestive and Kidney Diseases
45 CENTER DRIVE, Room 5AN-18G MSC 6600
BETHESDA, MD 20892-6600
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E-mail: HarmonJ@extra.niddk.nih

NIDR
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Telephone: (301) 594-2427
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Email: kousvelari@de45.nidr.nih.gov

NIEHS
Jose Velazquez, Ph.D.
Division of Extramural Research Training
National Institute for Environmental Health Sciences
P.O. Box 12233, MSC EC-21
Research Triangle Park, NC 27709
Telephone: (919) 541-4998
FAX: (919) 541-2860
Email: velazqu1@niehs.nih.gov

NIGMS
Warren Jones, Ph.D.
Division of Pharmacology, Physiology and Biological Chemistry
National Institute of General Medical Sciences
45 Center Drive, Room 2AS-43H, MSC 6200
Bethesda, MD 20892-6200
Telephone: (301) 594-5938
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Email: jonesw@nigms.nih.gov

NIMH
Michael F. Huerta, Ph.D.
Division of Basic and Clinical Neuroscience Research
National Institute of Mental Health
Parklawn Building, Room 11-103

Rockville, MD 20857
Telephone: (301) 443-3563
FAX: (301) 443-1731
Email: mhuerta@helix.nih.gov

NINDS
William Heetderks, M.D., Ph.D.
Division of Stroke, Trauma, and Neurodegenerative Disorders
National Institute of Neurological Disorders and Stroke
Federal Building, Room 8A13
Bethesda, MD 20892-9155
Telephone: (301) 496-9155
FAX: (301) 402-1501
Email: Heet@nih.gov

NINR
Hilary D. Sigmon, Ph.D., RN
Division of Extramural Activities
National Institute of Nursing Research
45 Center Drive, Room 3AN12, MSC 6300
Bethesda, MD 20892-6300
Telephone: (301) 594-5970
FAX: (301) 480-8260
Email: hilary_sigmon@nih.gov

NLM
Peter Clepper
Program Officer
National Library of Medicine
6705 Rockledge Drive, Suite 301
Bethesda, MD 20871
Telephone: (301) 594-4882
FAX: (301) 402-2952
Email: clepper@nlm.nih.gov

Questions on review issues may be directed to:

CSR
Richard Panniers, Ph.D.
Scientific Review Administrator
Center for Scientific Review
6701 Rockledge Drive, Room 5148
Bethesda, MD 20892
Telephone: (301) 435-1741
FAX: (301) 480-2241
Email: pannierr@drg.nih.gov

Questions on fiscal issues may be directed to:

NCI
Bill Wells
Grants Administration Branch
National Cancer Institute
6120 Executive Boulevard, Room 243, MSC 7150
Bethesda, MD 20892-7150
Telephone: (301) 496-7800
FAX: (301) 496-8601
Email: wellsw@gab.nci.nih.gov

NCRR
Joellen Harper
Office of Grants Management
National Center for Research Resources
6705 Rockledge Drive, Room 6086, MSC 7965
Bethesda, MD 20892-7965
Telephone: (301) 435-0836
FAX: (301) 402-1951
Email: harperj@ncrr.nih.gov

NEI
Carolyn E. Grimes
Grants Management Officer
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6120 Executive Boulevard, Suite 350, MSC 7164

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NHGRI
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FAX: (301) 480-3310
Email: wd8u@nih.gov

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FAX: (301) 402-3672
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NIAAA
Linda Hilley

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Email: lh67b@nih.gov

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AUTHORITY AND REGULATIONS

This program is described in the Catalog of Federal Domestic Assistance Nos. 93.394, 93.395, 93.396, 93.306, 93.867, 93.172, 93.837, 93.838, 93.839, 93.866, 93.273, 93.855, 93.856, 93.846, 93.864, 93.865, 93.929, 93.279, 93.173, 93.121, 93.847, 93.848, 93.849, 93.113, 93.821, 93.859, 93.862, 93.242, 93.853, 93.854, 93.361, and 93.879. Awards are made under authorization of the Public Health Service Act, Sec. 301, Title IV, Part A (Public Law 78-410, as amended by Public Law 99-158, 42 USC 241 and 285). Awards will be administered under PHS grants policies and Federal Regulations 42 CFR Part 52 and 45 CFR Part 74 and Part 92.

This program is not subject to the intergovernmental review requirements of Executive Order 12372 or Health Systems review.

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